

According to these findings, a proximal hemicolectomy was carried out with lymph nodal dissection followed by ileocolic anastomosis. The cavity inventory at laparotomy showed situs inversus abdominal and presence of spherical and hard lesion in the hepatic flexure of colon (Figure 2) with absence of macroscopic metastatic involvement.

Anatomopathological evaluation (Figure 2) confirmed tubular adenocarcinoma, moderately differentiate; presence of perineural invasion; vascular and angiolymphatic involvement were absent. TNM staging was T3N0M0, stage IIA.

Postoperative course was uneventful and he was discharged from the hospital on the 4<sup>th</sup> day after operation. He began adjuvant Mayo Clinic regimen, but stopped in the 4<sup>th</sup> cycle due toxicity of the gastrointestinal tract. Up to the moment of this writing, no sign of recurrence or metastasis has been observed.

## DISCUSSION

In the literature, there are 13 cases recognized about this issue, making a total of 14 cases, by adding this report. Enrolling all papers, colorectal cancer was more frequent in women (n= 9; 64%) than men (n=5; 36%). The age ranged from 41- 78 years, mean of 63,71 and median of 61,5 (SD=±10,40). Adenocarcinoma was the histological type present in all cases. Regarding the location of the tumor, there was a predominance of the transverse colon (n=6; 43%), with emphasis on hepatic flexure of the colon (n=5; 36%), followed by ascending colon (n=4; 29%), rectum (n=3; 21%) cecum and sigmoid colon (n=1; 7% in both topographies). Grouping the tumors in the right colon (proximal to splenic flexure of the colon) and left (from the splenic flexure of the colon), noted a prevalence of 79% and 21%, respectively, with statistical significance (p=0.029), according to an exact test for proportion and level of significance was  $\alpha=0.05$ . Regarding the surgical procedure, 10 (71%) patients underwent proximal hemicolectomy, and one case each (7%) of rectosigmoidectomy, abdomino-perineal amputation, transverse colectomy and decompression colostomy. Laparotomic surgical procedure accounted for 93% and only one case was operated by laparoscopic approach (7%)<sup>8</sup>.

Surgical procedures are considered more difficult in patients with situs inversus than other patients because of different anatomic position of organs, especially in laparoscopic surgery<sup>3</sup>.

The preoperative evaluation for situs inversus includes two main objectives: evaluation for gastrointestinal and cardiac anomalies and orientation of the viscera. The extent of evaluation should be based on the complexity of the procedure. Anomalies should be defined by using various imaging technologies to determine appropriate surgical treatment and decrease surgical difficulties and time<sup>4,5</sup>. Furthermore, the risk of occurrence of intra-operative complications is higher in comparison with the procedures of patients without situs inversus totalis<sup>1</sup>. Besides, incorrect surgical incision and a second operation are avoided<sup>2</sup>.

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## ENDOMETRIOMA LOCALIZED IN THE RECTUS ABDOMINIS MUSCLE: A CASE REPORT AND REVIEW OF LITERATURE

*Endometrioma localizado no músculo reto abdominal: relato de caso e revisão da literatura*

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## INTRODUCTION

Endometrial tissue localized outside the uterine cavity is defined as endometriosis. It commonly has been demonstrated in the ovaries, peritoneal surfaces, vagina, scar tissues, cervix, fallopian tubes, rectum, urinary tract, pouch of Douglas and possibly any organ in the abdomen<sup>1</sup>. The estimated prevalence reported in literature ranges from 8-15%<sup>2</sup>. Extra-pelvic localization of endometriomas are relatively rare. Especially abdominal wall placements are very infrequent. Usually such cases are associated with surgical scars<sup>3</sup>. The proposed mechanisms that have been put include retrograde menstruation, venous or lymphatic dissemination or metastasis, and mechanical transplantation into scars at the time of surgery<sup>4</sup>.

Herein, is presented a case of endometrioma localized in the rectus abdominis muscle.

## CASE REPORT

A 31 year old female with a history of two cesarean sections, the last one of them three years prior, presented with a painful mass in the left lateral side of the Pfannenstiel incision which had been steadily growing. The same patient went a month ago to our institution's urology clinic with pain in the inguinal region. After a detailed history and physical examination an ultrasonography was performed that revealed a 20X12 mm hypo-echoic nodular mass, neighboring the rectus abdominis muscle, with minimal vascularization. The differential diagnosis included endometriosis and a possible desmoid tumor. The patient was referred to our clinic for further evaluation. The pain started on the left lower quadrant and radiated towards the inguinal region, and was associated with menstruation. In physical examination a 2 cm wide mass was palpated in the previously described localization. Magnetic resonance imaging was performed which revealed a 20x11 mm mass which is slightly hyper-intense in the T1 sequence, and contrast enhanced after IV gadolinium injection in the T2 sequence, with increased signal intensity and nodular appearance in diffusion weighted sequences. These were found to be consistent with an endometrial implant (Figures 1A and 1B). Examination of the uterine cavity showed effusion which was at most 15 mm in width when measured. A little free fluid, indicating peritoneal irritation was present in between the intestinal loops. No pathological lymph nodes were present in the lower abdomen.

The patient was admitted for surgical removal of the mass. A 2 cm wide fibrotic appearing mass was excised (Figure 2) and was sent for pathological examination. The patient's complaints resolved after the surgery. She was discharged with no complications two days after the operation. Four months after the surgery, the patient came in for a follow-up visit, and had no complaints or complications. Histopathological examination was consistent with glandular structures of the endometrium with accompanying endometrial stroma within muscle and connective tissue (Figure 3).

## DISCUSSION

Ectopic endometrial tissue localized in the rectus abdominis tissue is a very rare occurrence. Previously there have been only 20 reported cases in literature<sup>5</sup>. The first one of these cases was presented by Amato et al, in 1984<sup>6</sup>. Giannella et al. has reviewed the previously reported cases extensively; their clinico-pathological characteristics, summarized, were: endometriosis with rectus abdominis placement usually is seen in premenopausal women, aged 27-42y, and history of previous surgery (77%), similarly to this patient. The average size of the endometriomas were 4X4 cm in diameter. This case had a much smaller dimension. The imaging studies' measurements were 2 cm at the greatest width. While CT scan has most commonly been used, in this case imaging diagnosis preferred to use ultrasound followed by an MRI<sup>7</sup>. Fine needle aspiration has also been tried in these cases; however, failed to prove effective in establishing diagnosis<sup>8</sup>.

Cesarean section is very frequently associated with abdominal wall endometriosis. The incidence, as reported in previous literature, can be as high as 1%. One of the proposed theories for how this occurs, takes into consideration the possibility that during the operation, endometrial cells may escape through the incision in the uterus and implant themselves within the abdominal incision site<sup>8</sup>.

This patient presented with cyclic symptoms that were associated with menstruation. The differential diagnosis of cyclic pain in general include lymphadenopathy, mesenteric lymphadenitis, lipoma, abscesses, hernias, hematomas, soft tissue sarcomas, desmoid tumors (which was considered in differential

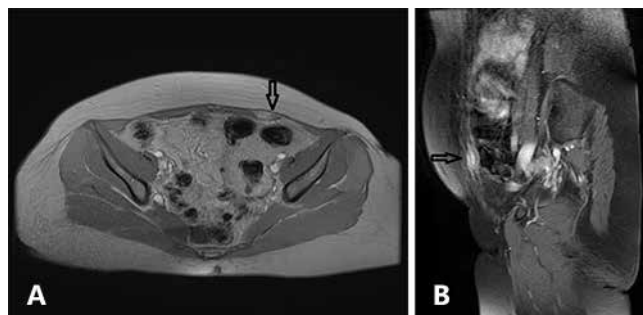


FIGURE 1 - Arrows show the area of endometriosis in rectus abdominis muscle: A) CT scan in transverse section; B) CT scan in sagittal section



FIGURE 2 - The mass excised in the operation

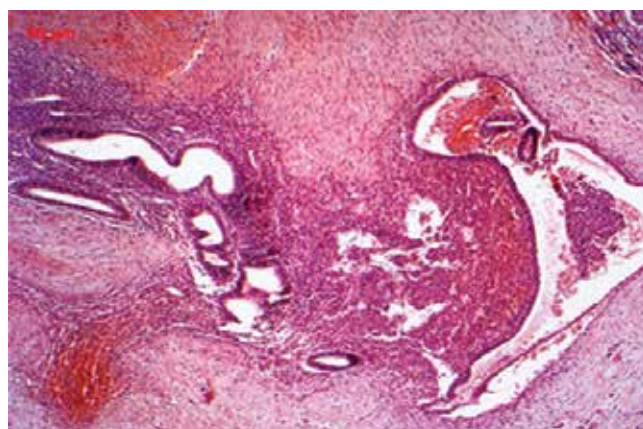


FIGURE 3 - Typical endometrium glands and spindle endometrium stroma existed in the area of endometriosis (H&Ex50)

diagnosis) and even metastatic cancer. Previously some studies have looked into the utility of biochemical markers for tracking endometriosis. These markers include CA-125, C-reactive protein, anti-mullerian hormone, follistatin<sup>9-12</sup>.

Previously conducted sonographic studies have determined that abdominal wall endometriomas (which were first demonstrated via ultrasound in 1979<sup>13</sup>) are commonly hypo-echoic, well defined, solid masses; this is consistent with sonographic findings of this case<sup>14</sup>. Medical treatment for these conditions, which have been previously utilized in literature, include danazol and progesterone; however, this treatment is frequently inefficacious, and therefore must be reserved for cases in which surgical treatment is not preferred<sup>15</sup>.

To summarize, in masses which present with cyclic pain and growth, localized to the abdominal surface, endometriomas must be considered in the differential diagnosis. Surgical removal, as evidenced previously reported cases, is successful, especially

when limited and localized within in the rectus abdominis muscle. Sonography followed by resonance, provides the most definitive imaging. Molecular markers are currently not established enough to be considered as a standard of diagnosis. Further large-scale studies or reviews are necessary to determine which approach is the best, with consideration of the patient's request.

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## LOCAL EXCISION OF PAPILLARY ADENOMA IN PATIENTS WITH HIGH SURGICAL RISK FOR PANCREATODUODENECTOMY

*Excisão local de adenoma de papila em paciente com risco cirúrgico elevado para duodenopancreatectomia*

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## INTRODUCTION

Benign tumors of the hepatoduodenal ampulla are rare, with few cases reported in the world literature. Among these tumors adenomas, lipomas, hemangiomas, carcinoid and leiomyomas have been described. The villous adenoma remains the most frequent<sup>2,5</sup>. Necropsy studies have shown an incidence of around 0.04% to 0.12%, and for this rarely remembered in the periampullary lesions differential diagnosis<sup>2</sup>.

The adenoma of it affects more frequently women, an age group between 5<sup>th</sup> and 7<sup>th</sup> decades, and is often associated with colonic polyposis. Initially, the patient may be asymptomatic and clinical findings begin to emerge with the growth of the tumor<sup>2,5</sup>.

The most common symptoms are biliary colic pain type and gastrointestinal bleeding; in some cases there may be pancreatitis and obstructive jaundice<sup>5</sup>. The diagnosis is given by histopathological lesion obtained by upper endoscopy with duodenal papilla vision and always colonoscopy should be performed to identify adenomatous colonic polyposis.

Some authors<sup>2,3,5</sup> believe in the existence of a pre-malignant lesions, where as malignant degeneration occurs in 30-40% of cases. Because of this potential for considerable degeneration, treatment is still controversial, with numerous discussions about the best approach, endoscopic, surgical with it transduodenal local excision or pancreaticoduodenectomy.

## CASE REPORT

Woman of 77 years was admitted in General and Digestive Surgery Service, Walter Cantídio University Hospital, Fortaleza, CE, Brazil. Three months prior to admission, the patient began exhibiting abdominal pain in the epigastrium without irradiation and not associated with other symptoms. She denied weight loss, diarrhea, appetite loss or icterus. On examination she was in good general condition, normal colored and hydrated, focused and normal vital signs. Cardiac auscultation, pulmonary and abdominal examination without changes. Suffered from systemic hypertension, diabetes mellitus type 2 and dyslipidemia in regular medication use.

Laboratory investigation showed normal serum levels of transaminases and bilirubin. Endoscopy visualized polypoid lesion in the duodenal papilla, measuring about 5 cm, which was biopsied at seven different sites. Histopathology was compatible with tubulo-villous adenoma with low grade dysplasia. Abdominal ultrasonography showed normal common bile duct and gallbladder and bile ducts without dilatation. Computed tomography of the abdomen showed no changes. The colonoscopy was normal, not evidencing any other polypoid lesion.

The patient was taken to the operating room for the purpose of a transduodenal local resection of the tumor (ampulectomy), but with all the pre-operative support for a possible PD. During surgery, after duodenotomy, polypoid lesion of approximately 6 cm in the duodenal papilla (Figure 1) was observed.

The lesion was completely resected and the main pancreatic duct and common bile duct were fixed with synthetic absorbable suture. The tumor was sent for frozen biopsy, which resulted in tubulo-villous adenoma with high-grade dysplasia. Ampulectomy was done and was also performed catheterization with good visualization of the common bile duct and main pancreatic duct (Figure 2).